

CLAIMS

1. A hydrotalcite intercalated by silica.
- 5 2. The hydrotalcite as claimed in claim 1, characterized in that it comprises at least one divalent cation, chosen in particular from Mg, Ni, Zn or Co, and at least one trivalent cation, chosen in particular from Al, Ga, Fe or Cr.
- 10 3. The hydrotalcite as claimed in claim 2, characterized in that it exhibits a divalent cation/trivalent cation molar ratio of between 1 and 8, preferably between 2 and 6.
- 15 4. A magnesium aluminum hydrotalcite intercalated by silica.
- 20 5. The hydrotalcite as claimed in claim 4, characterized in that it exhibits an Mg/Al molar ratio of between 1.5 and 5, preferably between 2 and 4.
- 25 6. The hydrotalcite as claimed in one of claims 1 to 5, characterized in that it comprises silica essentially, in particular solely, intercalated between its layers.
- 30 7. The hydrotalcite as claimed in claim 6, characterized in that it exhibits an Si/trivalent cation, in particular Si/Al, molar ratio equal to 1.
- 35 8. The hydrotalcite as claimed in one of claims 1 to 5, characterized in that it comprises, in addition to the silica intercalated between its layers, silica at its surface.

9. The hydrotalcite as claimed in claim 8, characterized in that it exhibits an Si/trivalent cation, in particular Si/Al, molar ratio of greater than 1, in particular of greater than 2.
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10. A process for the preparation of an intercalated hydrotalcite as claimed in one of claims 1 to 9, characterized in that it comprises a stage of simultaneous addition, to a vessel heel formed of
- 10 water:
- either of a solution comprising salts of at least one divalent cation, chosen in particular from Mg, Ni, Zn or Co, and of at least one trivalent cation, chosen in particular from Al, Ga, Fe or Cr, or of two solutions, one comprising a salt of
 - 15 a divalent cation, chosen in particular from Mg, Ni, Zn or Co, and the other comprising a salt of a trivalent cation, chosen in particular from Al, Ga, Fe or Cr,
 - 20 - of a silicate solution, preferably an alkali metal silicate solution,
 - of a basic agent solution.
11. The process as claimed in claim 10, characterized in
- 25 that the duration of the simultaneous addition is between 30 and 90 minutes.
12. The process as claimed in either of claims 10 and 11, characterized in that the temperature during the
- 30 simultaneous addition is maintained between 20 and 40°C.
13. The process as claimed in one of claims 10 to 12, characterized in that, on conclusion of the simultaneous addition, the product obtained is heated,
- 35 preferably between 80 and 95°C, in particular for 1

to 3 hours.

14. The use as filler, in particular as reinforcing filler, in a polymer composition, of at least one hydrotalcite as claimed in one of claims 1 to 9 or prepared by the process as claimed in one of claims 10 to 13.
15. The use as claimed in claim 14, characterized in that said polymer composition is based on at least one polymer or copolymer exhibiting at least one glass transition temperature of between -150 and +300°C.
16. The use as claimed in either of claims 14 and 15, characterized in that said polymer composition is based on at least one thermoplastic elastomer.
17. The use as claimed in one of claims 14 to 16, characterized in that said polymer composition additionally comprises at least one coupling agent and/or at least one coating agent.
18. A polymer composition based on at least one polymer or copolymer comprising a filler, characterized in that said filler is formed by at least one hydrotalcite as claimed in one of claims 1 to 9 or one hydrotalcite prepared by the process as claimed in one of claims 10 to 13.
19. The polymer composition as claimed in claim 18, characterized in that said polymer or copolymer exhibits at least one glass transition temperature of between -150 and +300°C.
20. The polymer composition as claimed in either of

claims 18 and 19, characterized in that it additionally comprises at least one coupling agent and/or at least one coating agent.

- 5 21. A finished article based on at least one composition as defined in one of claims 18 to 20.